DOCUMENT RESUME

ED 175 558 PS 010 841

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TITLE Crying Behavior and the "Nonviolent" Leboyer Method of Delivery.
PUB DATE Mar 79
NOTE 7p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (San Francisco, California, March 15-18, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Birth; *Comparative Analysis; *Infant Behavior; *Perinatal Influences
IDENTIFIERS Infant Crying; *Leboyer Method

ABSTRACT

This paper reports on a 3-month longitudinal study comparing the crying behavior of a group of babies delivered by the "nonviolent" Leboyer method with a control group delivered by traditional methods. Subjects were 24 white, middle class infants delivered by minimally medicated, multiparous and primiparous mothers. Fourteen newborns were "Leboyer babies," meaning they were delivered in quiet, dimly lit rooms and immersed in a warm bath soon after delivery. Remaining infants had conventional births--bright lights, normal conversation and no bath. Assignment to groups was based upon parental decision. In the delivery room Leboyer newborns cried slightly more frequently for a greater duration of time (29% versus 23%) than did the control group. There was no difference in intensity of cry. The greatest differences were in parental behaviors, with Leboyer parents more involved in the whole delivery process. Wake/sleep diaries and two 2-hour home observations when infants were three months old revealed few differences. Mother's reports on Rothbart's Infant Behavior Questionnaire showed no significant differences. Some "typically" Leboyer behaviors were observed in delivery rooms. Two infants smiled; one did so 5 times in apparent response to parental overtures. While not significant, Leboyer babies opened their eyes in half the time it took control infants. More accurate duplication of Leboyer's method is needed. (Author/RH)

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CRYING BEHAVIOR AND THE "NONVIOLENT" LEBOYER METHOD OF DELIVERY

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Crying Behavior and the "Nonviolent" Leboyer Method of Delivery

A current obstetrical controversy with important psychological ramifications surrounds the birth techniques of Dr. Frederick Leboyer. Leboyer contends that delivery room cries denote pain and fear caused by traditional "violent" birthing practices which have a negative, long-term effect on children. Thus, his method involves dim lighting, relative quiet, gentle handling, and immersion in a warm bath, all of which supposedly reduce birth trauma and produce nonirritable, alert, smiling infants.

This paper reports on a 3-month longitudinal study investigating the crying behavior of a group of babies born by the Leboyer method and a control group delivered by conventional methods. The specific questions asked were: Do Leboyer babies cry less in the delivery room. If so, do they continue to be less irritable thereafter.

Subjects were 24 white, middleclass newborns delivered at the Portland Adventist Hospital (Portland, Oregon)between April 1977 and October 1977. All mothers were attended by the same physician, received no or minimal medication during labor and delivered with only a local anaesthetic for an episiotomy. Fourteen of the newborns (5 girls and 9 boys) were "Leboyer babies." Fifty-seven percent were firstborn and 43% later born. The remaining 10 newborns (7 girls and 3 boys) were delivered by conventional procedure, with no bath, bright lights and normal conversation. Fifty percent were firstborn, 50% later born. Random assignment to experimental or control group was impossible; decisions determining the type of delivery were made by the parents.

Prior to delivery all mothers completed a background questionnaire on socio-economic status and reciprocity attitudes. Delivery data consisted of an audio tape and an observation schedule kept by 1 of 2 trained observers (reliability coefficients ranged from .80 to 1.00). At 1 week and once a month thereafter mothers kept a 24-hour wake/sleep diary, recording in 15-minute intervals when the infant slept, ate and cried. At 3 months, two 2-hour observations took place and mothers completed Rothbart's Infant Behavior Questionnaire (IBQ), a caretaker report measure of temperament. Finally, both parents answered questions describing their feelings about the delivery.

Data analysis reveals few differences in the deliveries

except that Leboyer deliveries were darker and quieter. There was little difference in delivery room crying behavior. Duration of cry (total time cried/time in delivery) for Leboyer newborns averaged 29% of delivery time as opposed to 23% for non-Leboyer infants. Leboyer babies whose mothers received no medication during labor cried 25% of delivery time compared to 15% for a similar control group. Frequency scores equalling the average number of cries per 20 minutes (number of cries X 20/time in delivery) show Leboyer babies averaging 36 cries and non-Leboyer 27 cries. There was no difference in intensity of cry, based on a 7-point scale ranging from unhappy sound to full-blown cry. Parental behaviors account for the greatest differences in the deliveries. In general, Leboyer parents were more involved in the delivery.

No differences were found in wake/sleep diaries with one exception, the "longest crying time" for 2-month-old Leboyer infants was longer ($p < .05$). When amount of time cried is considered in relation to feeding schedule, the 3-month observations reveal Leboyer infants were somewhat more irritable than the control group before, during and after nursing. IBQ scores for scales with established reliability show the only difference is a higher activity level for Leboyer infants ($p < .05$).

In this study, a Leboyer delivery apparently does not diminish crying behavior either in the delivery room or during the first 3 months. If anything, there is a tendency for

Leboyer infants to be slightly more irritable. However, a higher activity level and greater irritability are often noted characteristics of male infants. While between-sex comparisons were generally insignificant, boys were more irritable during the 3-month observations. Thus the larger percentage of boys in the Leboyer sample may account for some of the differences found.

Although many of the most salient features of Leboyer's method were adhered to, duplication did fall short. For instance, these infants experienced almost immediate straightening of the spine, baths that averaged only 3 minutes, frequently crowded delivery rooms and the introduction of silver nitrate into their eyes soon after delivery. Nonetheless, a few unusual delivery room behaviors were observed. Two newborns did produce the famous Leboyer smiles. One turned her head and smiled in apparent response to smiles and verbal stimulation five separate times. Although the difference was not significant, Leboyer infants opened their eyes in half the time it took the control group.

Little is known about the formation of early parent-infant interaction patterns. Behaviors such as these, which appear to promote early parental involvement with the infant, may have important implications for the interaction patterns which subsequently evolve. Further research is needed with larger samples, greater randomization and more accurately duplicated Leboyer deliveries and post-delivery conditions.

ADDENDUM

June 11, 1979

Reanalysis of the three-month data reveals the reported higher activity level for Leboyer infants does not reach conventional levels of significance.